Bureau of Prisons National HIV Clinical Pharmacist Consultant Program

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The Bureau of Prisons (BOP) recently (December 2004) instituted a BOP National HIV Consultant Pharmacist Program. The six BOP Regions are assigned an HIV Consultant Pharmacist. Each pharmacist was provided intensive training through a Johns Hopkins University HIV/AIDS Pharmacotherapy Traineeship administered by the American Society of Consultant Pharmacists.

These National HIV Pharmacist Consultants provide tele-consultation services on HIV management to other BOP health care staff to address HIV medication-related issues.

Reasons for program initiation were twofold. HIV medication expenditures account for approximately 20-25% ($12.7 million) of the BOP's pharmaceutical budget and HIV treatment recommendations are dynamic, making compliance with current USPHS and BOP Guidelines difficult. Consultation with HIV experts within the community proves to be challenging at many institutions as remote institution sites may not have access to Infectious Disease Specialists. Improving antiretroviral drug utilization through this program will assist in improving patient outcomes in accordance with current guidelines and evidence-based medicine, thereby decreasing overall HIV health care costs.

Specific goals, expectations, and interventions include monitoring effectiveness, appropriateness, and adherence to HIV/AIDS treatment via US Public Health Service (USPHS)(1) and Federal Bureau of Prisons(2) Guidelines; appropriate treatment of comorbidities and metabolic complications (eg, hyperlipidemia, DM); drug interaction and adverse drug reaction review; alternative treatment advisement per genotype/phenotype; and ensuring appropriate medication laboratory monitoring. Common resources utilized by the HIV Pharmacist Consultants are the National HIV Telephone Consultation Service Warmline, Johns Hopkins AIDS Service, and intranet email consultations with each other.

A National HIV Medication Review matrix tool was developed to assist in this effort. First provided to all BOP Institutions in the spring of 2004 (8 months before HIV Pharmacist Consultant program initiation), a scheduled followup and subsequent HIV pharmacist consultant review is planned for release in August 2005. The 2004 Medication Review matrix tool was very detailed and intricate, involving detection of contraindicated or inadvisable/not recommended treatment regimens as well as submission of viral load data. A summary of these DUE results are as follows:

Table 1: 2004 HIV Medication Review Results(3)

• BOP Institutions Reporting		• 62/104	59.6%
• HIV Patient Charts Reviewed		• 858/1445	59.4%
• Prevalence of Diagnosed BOP HIV Infection		• 1,445(4)/151,654(5)	0.95%
• Prevalence of Diagnosed AIDS in BOP HIV Infected		• 547(4)/1,445(4)	37.9%
• Percent of Contraindicated/Not Recommended Treatment Regimens		• 50/858	5.83%
• Viral Load Results •	>400 copies/mL	386/858	45%
	<400 copies/mL	120/858	14%
	<50 copies/mL	275/858	32%
	Not Reported	77/858	9%

Noncompliance is seen as one reason for the high rate of viral loads which remain detectable. Many patients enter into the system with substantial resistance patterns due to prior noncompliance making it more challenging to obtain undetectable viral loads versus a treatment-naive patient. An unexpected finding during this review was the under-utilization of the ultra-sensitive test when the non-ultra-sensitive test revealed <400 copies/mL. BOP health care staff have been educated regarding these findings on several occasions via BOP intranet presentations and through a 2005 National Pharmacy & Therapeutics and Formulary Meeting Review. Upon completion of the scheduled follow-up 2005 HIV Medication Review, identified outliers within the Contraindicated/Not Recommended Treatment Regimens, >400 copies/mL viral load, < 400 copies/mL viral load, and noncompliance elements will be individually reviewed by the respective BOP National HIV Consultant Pharmacist.

Currently, HIV consults are requested by an institution provider via a BOP HIV Consult Request Form that includes information on the following:

1. Requesting clinician and institution.
2. Reason for the consult (eg, medication evaluation, treatment failure, resistance evaluation, reduce medication load, opportunistic infection treatment/prophylaxis, adverse drug reactions/side effects). Multiple reasons for the consult may be checked.
3. Patient information (eg, labs, immunizations, allergies, comorbidities, current HIV regimen, genotype/phenotype, viral load/CD4, medication compliance analysis (based upon refill history)).

After review of these forms, as well as all pertinent data by the pharmacist consultant, recommendations and/or interventions are then made. These recommendations are summarized on an HIV Intervention Form and provided to BOP Central Office for analysis and review. A summary of these interventions since initiation of this program in December 2004 are as follows:

Table 2: Purpose of Consult

	Quantity by Region						
	NER	MAR	SER	SCR	NCR	WR	Total
Treatment Initiation	3	0	1	3	1	2	10
Medication Appropriateness / Interaction Review	16	3	6	5	4	8	42
Reduce Medication Regimen Complexity	2	0	2	1	3	3	11
Adverse Reactions/Side Effects	3	1	0	3	3	1	11
Resistance (Phenotype/Genotype) Review	5	3	4	7	2	7	28
Opportunistic Infection Treatment/Prophylaxis	2	0	0	1	0	2	5
Comorbid condition	4	1	0	2	1	2	10
Total	35	8	13	22	14	25	117
Number of Cases Reviewed	18	3	7	10	7	9	54

Table 3: Pharmacist Intervention

	Quantity by Region						
	NER	MAR	SER	SCR	NCR	WR	Total
Initiation of Medication Therapy (any)	3	1	1	3	1	2	11
Continue with Current Treatment	6	3	0	0	3	3	15
Change Medication Regimen	9	1	3	4	2	3	22
Adjust Medication Dose	1	0	3	2	1	0	7
Order Follow-up Labs	0	0	6	3	3	6	18
Reduce Medication Complexity/ Pill Burden	2	0	2	1	3	3	11
Treatment of Adverse Effects	1	1	0	1	3	1	7
Total	22	6	15	14	16	18	91

As of August 12, 2005, 54 total cases have been reviewed for 117 specified reasons, and 91 total interventions have been made. There is currently not any outcome data on these interventions such as CD4 count, viral load, medication compliance, resolution of adverse event, etc. However, as this program develops and becomes more integrated into the treatment of HIV patients, it is the intention to tie interventions to outcomes data.

An overall outcomes data evaluation of the percentage of undetectable HIV viral load is the first item being considered via the BOP HIV Viral Load National Performance Measure. This is defined as HIV ribonucleic acid (RNA) levels of 50 copies/mL or below confirmed by ultra-sensitive method for patients on antiretroviral therapy for at least six months. Mandatory reporting of these National Performance Measures by all BOP institutions became effective January 2005. A baseline is currently being obtained for future analysis. A measure of the viral load outcome data and incorporation into the BOP National HIV Consultant Pharmacist Program is hoped to be accomplished through a collaborative effort with the BOP Health Services Division, Office of Quality Management.

Development of Care Level Classification for Medical/Psychiatric Conditions or Disabilities and the BOP Electronic Medical Record are two initiatives which will assist the management of HIV patients and the utilization of the BOP National HIV Consultant Pharmacist Program. The goal of the Care Level Classification is to match inmate health care needs (particularly in terms of intensity of care issues, access to community medical resources, and functional criteria) to institutions which can most effectively meet those needs. The BOP Electronic Medical Record is currently under construction and will allow the BOP National HIV Consultant Pharmacists to either pro-actively review HIV patients within their region or, when consulted, to efficiently review a patient's entire medical record.

As this program develops, practitioners are being educated regarding appropriate HIV Pharmacist Consultant utilization. There have been many positive comments and anecdotal successes communicated to the BOP Health Services Division. Also, as this program gains a foothold into the fabric of HIV management within the BOP, methods and mechanisms are being discovered which could assist with a more proactive approach and intervention process. Such areas include outlier data identification and follow up. Outlier data identification under consideration are the HIV National Performance Measure of

undetectable viral load; National HIV Medication Review results of viral load (non-ultra-sensitive vs ultra-sensitive) testing and contraindicated/inadvisable medication therapy results; and development of Pharmacy Software reports to analyze medication compliance expressed as a percentage as well as a medication therapy matrix to quickly identify contraindicated or inappropriate therapy regimens. In reviewing and acting upon this outlier data, the HIV Pharmacist Consultant will work directly with the Regional Physician Clinical Consultants to address the issue(s) identified.

In summary, it is envisioned that appropriate outlier identification markers as well as referrals at the institution or Central Office level will make a large positive impact on viral load outcomes data as well as the quality of life of persons living with HIV infection through appropriate selection and management of their HIV medication regimen.

References/Footnotes:

1. Guidelines for the Use of Antiretroviral Agents in HIV-1-Infected Adults and Adolescents. Panel on Clinical Practices for Treatment of HIV Infection convened by the Department of Health and Human Services, DHHS, August 2005. http://www.aidsinfo.nih.gov/guidelines/adult/AA_040705.pdf

2. Federal Bureau of Prisons, Clinical Practice Guidelines, Management of HIV Infection. February 2004. http://www.bop.gov/news/PDFs/hiv.pdf

3. Data does not differentiate between treatment naive, treatment repeats, and new incarcerations on pre-existing regimens.

1. Data as of June 2004

1. Monday Morning Highlights. U.S. Department of Justice, Federal Bureau of Prisons, June 28 2004.